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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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James J. Alwan

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EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/910,542

Applicant(s)

ALWAN ET AL.

Examiner

Karabi Guharay

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 10/24/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18, 21-28 and 31-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18, 21-28 and 31-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Amendment, filed on 10/24/2005 has been considered and entered.

Substitute specification has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11-13, 15, 17-18, 21-23, 25, 27-28, 31-33, 35, 37-41, 43, 45-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Westphal et al. (US 5656886).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 11-12, 17 & 21-22, 25, 27, Westphal et al. disclose an improved cathode substrate (see Fig 3 & Fig 4) for a field emission display comprising a substrate 18, made of soda-lime glass (lines 51-53 of column 3), a cap layer (20) with a resistive layer 22 within it, made of amorphous silicon (lines 54 of column 3) which is an anti-reflective material, thus forming an anti-reflective layer extending across an expanse of the cap layer 20 (see Fig 4); a conductive layer (28) overlying the cap layer and anti-reflecting coating and an array of emitters (32) formed from the conductive

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layer (28, see Fig 3 & Fig 4) on the cap layer with the anti-reflective coating within it, wherein the cap layer 20 is formed of a non-conductive material such as silicon dioxide (line 10 of column 3).

Regarding claims 31-32, 35, 37, 39-40, 43, 45, Westphal et al. disclose an improved cathode substrate (see Fig 3 & Fig 4) for a field emission display comprising a substrate 18, made of soda-lime glass (lines 51-53 of column 3), a cap layer (20) with a resistive layer 22 within it, made is formed of polycrystalline silicon or amorphous silicon (lines 54-55 of column 3) which is a light blocking material, thus forming a light blocking layer extending across an expanse of the cap layer 20; and forming an array of emitter tips (32) on the cap layer with the anti-reflective coating within it (see Fig 4), wherein the cap layer 20 is formed of a non-conductive material such as silicon dioxide (line 10 of column 3).

Referring to claims 13, 18, 23, 28, 33, 38, 41 & 46 it is noted that the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 14, 16, 24, 26, 34, 36, 42 & 44 are rejected under 35 U.S.C. 103(a) as being obvious over Westphal et al. as applied to claim 11.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Referring to claims 14, 24, 34, and 42, Westphal et al. disclose a cathode substrate including a cap layer 20. However, Westphal et al. are silent as to the thickness of the cap layer 4. The specification of a suitable thickness is within the skill of the art. It would have been obvious to specify a suitable thickness for the cap layer 4, because changes in size are generally considered to be within the skill of the art.

Regarding claim 15, Instead of claimed silicon carbide and diamond like carbon as the material for the cap layer Westphal et al. disclose silicon dioxide as the material for the cap layer. However, silicon nitride and diamond like carbon are art recognized equivalent for using cap or protective layer.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use silicon nitride or diamond like carbon as the material

for the cap layer, since selection of known material for known purposes is considered to be within the skill of the art.

Regarding claims 16, 26, 36 & 44, Westphal et al. disclose that the substrate is made of glass, however, plastic material is widely used for substrate in a display device. Glass and plastic are art recognized equivalent material for the substrate.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use plastic material as the substrate since selection of known material for known purposes is considered to be within the skill of the art.

Response to Arguments

Applicant's arguments filed 10/24/2005 have been fully considered but they are not persuasive.

First of all Applicant contends that Westphal et al. does not recite all the limitations set forth in claims without particularly pointing how the prior art does not anticipate the claims, applicant is directed to see the rejection.

Second of all Applicant contends that Westphal does not describe resistive layer 22 as an anti-reflective coating, rather dictates that the resistive layer 22 having the desired electrical characteristics.

In response examiner respectfully presents that antireflective property and electrical property of a material are not mutually exclusive. Since resistive layer is made of a material, which has anti-reflection property, it will act as antireflection coating and also has its electrical properties.

Further applicant contends that the prior art does not describe inclusion of the resistive layer 22 within the cap layer.

Cap layer of Westphal et al. consists of layer 20 and the antireflective layer (resistive layer 22) disposed on it, which is same as applicant's Fig 3 & Fig 4.

Applicant's antireflection layer is disposed on the cap layer which is within the cap layer, and prior art layer's disposition is exactly same as applicant's cap layer with antireflective coating, thus the argument of antireflective layer not within cap layer is not valid.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

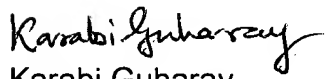
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karabi Guharay
Patent Examiner
Art Unit 2879